WDS104HW WIFI ONU User Manual

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1. Hardware Setup

Getting to know your ONU

The WDS104HW WiFi ONU provides you with an easy and secure way to set up a wireless home network with fast access to the Internet over a optical fiber network.
This chapter explains how to set up your hardware. If you have already set up your WIFI ONU, you can skip this chapter. Chapter 2 explains how to set up.

This chapter contains the following sections:
Unpack Your ONU
Hardware Features
Position Your ONU
Connect Your ONU

1.1 Unpack Your ONU

Open the box and remove the ONU and installation guide.

ONU

Cable Power adapter

If any parts are incorrect, missing, or damaged, contact your On Networks dealer. Keep the carton and original packing materials in case you need to return the product for repair.

1.2 Hardware Features

Before you install the WDS104HW ONU, take a moment to become familiar with the front, side, and back panels and the label. Pay particular attention to the LEDs on the front panel.

Front Panel

The router front panel has the status LEDs shown in the following figure.

LED	Description
PWR	On: The ONU is power on; Off: The ONU is Power off;
OPTIN	On: Optical in normal; Blinking: Optical power lower than receiver sensitivity ; Off: Optical link abnormal;
LINK	On: Success to register to OLT; Blinking: In process of registering to OLT; Off: Failed to register to OLT;
ETH1-2 LAN1-2	On: Ethernet connection is normal; Blinking: Data is being transmitted through the Ethernet port; Off: Ethernet connection is not set up;
WIFI	Blinking：Data is being transmitted Off：The WLAN function is disabled
SYS	System
*CATV	On：CATV optical normal (>-9dBm) Off：The CATV signals are not received (<-9dBm)

Back Panel

The back panel has the connections and button shown in the following figure.

Interface		Qty.	Description
PON		1	Optical port
CATV		1	CATV RF port
Ethernet	LAN	2	Ethernet LANn ports for connecting to PC，can work on Router Mode. WAN connection can get the IP address from upper-layer device.
	ETH	2	Ethernet ports for connecting to PC, the user-side IP address is obtained through the upper-layer device.
Power Connector		1	Power connector
Power Button		1	Power On/Off
Reset		1	Reset button
WLAN		1	WIFI On/Off

1.3Position Your ONU

The ONU lets you access your network from virtually anywhere within the operating range of your wireless network. However, the operating distance or range of your wireless connection can vary significantly depending on the physical placement of your ONU. For example, the thickness and number of walls the wireless signal passes through can limit the range. For best results, place your router:

•Near the center of the area where your computers and other devices operate, and preferably within line of sight to your wireless devices.

•So it is accessible to an AC power outlet and near Ethernet cables for wired computers.

•In an elevated location such as a high shelf, keeping the number of walls and ceilings between the router and your other devices to a minimum.

•Away from electrical devices that are potential sources of interference. Equipment that might cause interference includes ceiling fans, home security systems, microwaves, computers, the base of a cordless phone, or a 2.4 GHz cordless phone.

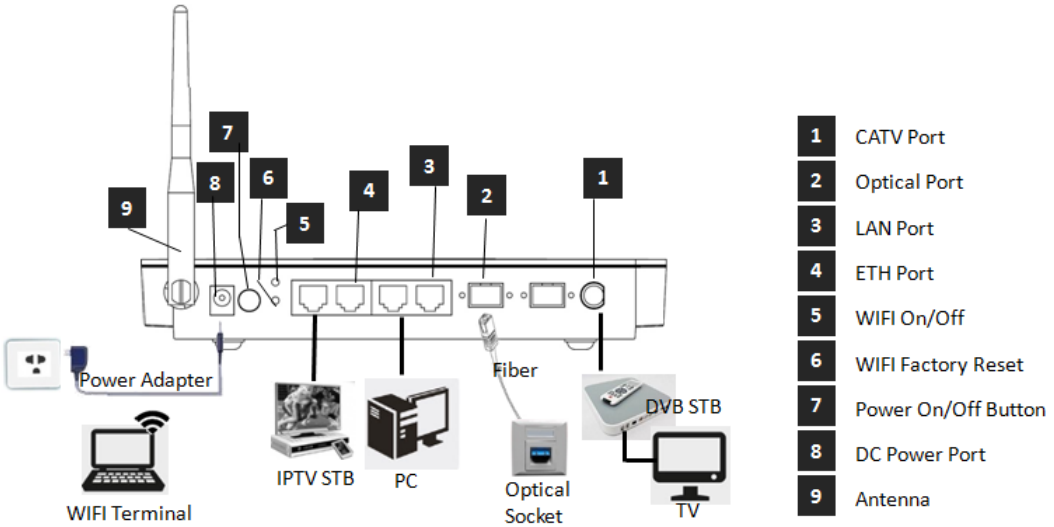
•Away from any large metal surfaces, such as a solid metal door or aluminum studs. Large expanses of other materials such as glass, insulated walls, fish tanks, mirrors, brick, and concrete can also affect your wireless signal.

1.4 Connect Your ONU

The installation guide that came in the box has a cabling diagram. This section walks you through how to connect your ONU with detailed illustrations.

To connect your ONU:

1. Please connect the LAN port of the ONU to the network adapter of your computer with one cable.
2. Please connect your optical fiber to the PON port of your ONU.
3. Please use the delivery-attached power adapter to the ONU, and plug the power adapter into an outlet. Wait for the Power LED on the front panel to light. If no LEDs are lit, press the Power On/Off button on the rear panel of the ONU.



2 Getting Start

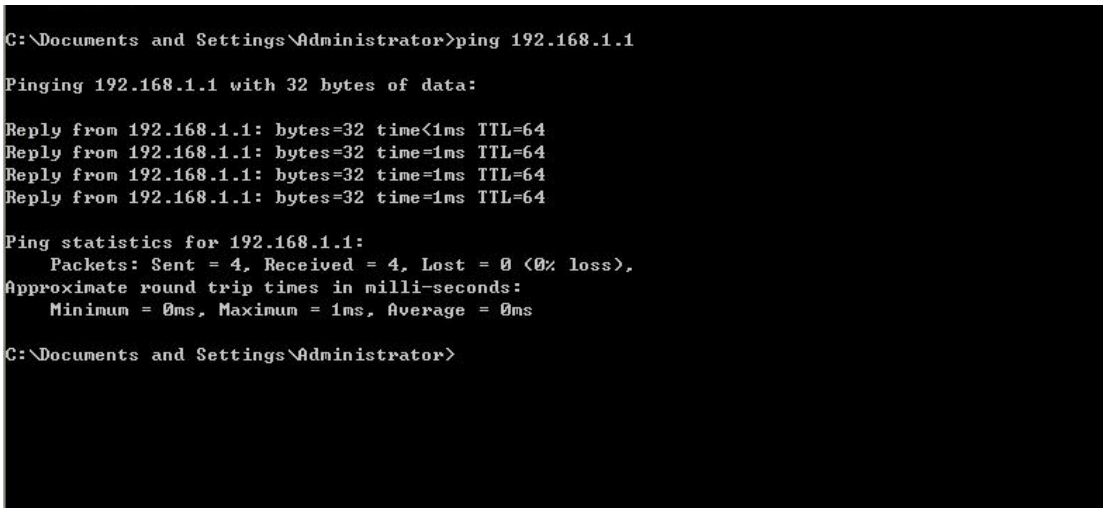
2.1 Prepare for login the ONU Wi-Fi web management

Before you login the ONU, you should confirm the connect between the CPE and your PC is normal.

Step 1 Configuring the IP address of your PC to 192.168.1.X (2~254) , subnet mask is 255.255.255.0 , gateway is 192.168.1.1.

Step 2 Ping IP address of the ONU (Default address is 192.168.1.1). If the PC can get right reply from Ping command, it is mean the connecting between the PC and CPE is normal.

【Figure 1】



2.2 Login the Web Management Interface

Open the WEB browser (recommend IE), enter http://192.168.1.1 in the address bar, and then press enter to display the login interface, as shown in figure. Please input user name and password (general subscribers default user name and password are both admin for login, **administrator user name and password are "adminisp" and "adminisp"**), and select your preferred language. Click Enter button and enter the WEB management interface.

Login to the WEB management interface

Note:

You can modify the password after entering WEB management interface. Please refer to system maintenance “Management” for related operation.

3 Know WEB Management Interface

WEB management interface can rapidly complete required function configurations. This chapter will lead you to understand and become familiar with WEB management interface.

3.1 WEB Management Interface Introduction

WEB management interface introduction
1) The sub-menu area
2) The main menu area
3) Display the content

3.2 Main Menu Introduction

Main Menu	Sub-Menu
Running	Device information. Network Status. Wireless Status. Configuration Wizard.
Network	Network Status. Static Routing. WAN Setting. LAN Setting. QoS.
Wireless	Wireless Status. Basic Setting. MAC Filter.
Security	Basic Setting. URL Filter. MAC Filter. IP Filter..
Application	ALG Setting. Dynamic DNS. UPnP. DMZ Setting. Port Forward. IGMP Setting.
System	System Log. Kernel Log. Log server. Device Reboot. System Upgrade. Restore Factory. Management. TR069 Management.
Diagnosis	Ping Test. Tracert Test

4 Running

Running screen includes Device information, Network Status, Wireless Status and Configuration Wizard.

4.1 Device information

Click Device information to display the following screen:

Product Information shows Product Model, Product Function, Hardware Version, Software Version and Compile Time.

4.2 Network Status

Click Network Status to display the following screen:

The page will show WAN connection status and LAN status.

WAN Status shows current system WAN Connection Name, Connect Type, Connect

Status, Default Gateway, IP Address that has been obtained, subnet Mask, preferred dns1, LAN Status will show client ID, IP address, MAC Address and Hostname.

Note: Refresh button is for refresh the information of explore

4.3 Wireless Status

Click Wireless Status to display the following screen:

Wireless Status shows current Wi-Fi SSID, MAC, Signal, Transmission and so on.

4.4 Configuration Wizard

Click Configuration Wizard to display the following screen:

The Configuration Wizard screen provide rapid configuration, you can choose in DHCP Mode, Static Mode and PPPoE Mode based on your network.

5 Network

Network screen includes Network status, Static Routing, WAN Setting, LAN Setting, Qos. Network status is same as in the Running-->Network Status

5.1 WAN Setting

You can setup WAN connection here. No
The WAN connection can work under the router or bridging mode. You can bind the LAN port or WIFI to the WAN connection.

5.1.1 WAN Connection Named Rule

The WAN Connection (Network Name) named rule as below:

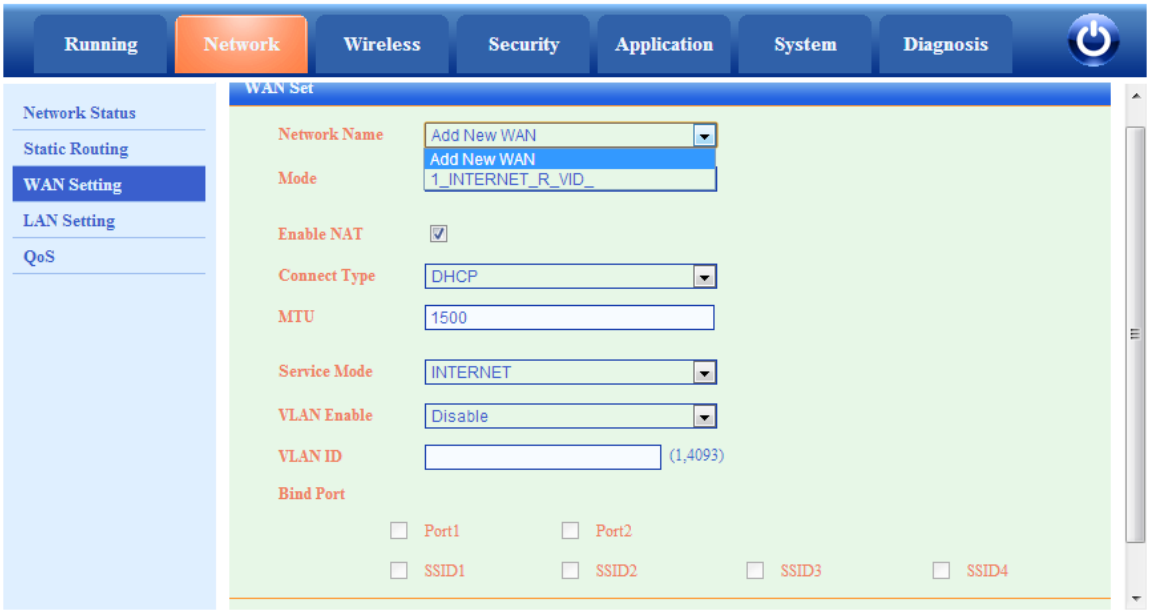
Numerical order_Keywords_Bridege or Router mode_PVC/VLAN information

Content	Definition	Description
Numerical order	Sequence number	To identify the WAN Connection, following the next rule: based the sequence of the WAN Connection created, number in sequence increasing, no reuse the number have been used
Keywords	TR069	The connection is used for TR069
	INTERNET	The connection is used for INTERNET, not support the TR069
	TR069_INTERNET	The connection is used for INTERNET and the TR069
Bridge or Router	B	Bridge Mode
	R	Router Mode
VLAN	VID_Z	Z of VID_Z is the VLAN_ID value (for untag WAN Connection, value of Z is Null and do not appear in the connection's name）

For Example：
1_INTERNET_R_VID_2 (The WAN Connection is used for INTERNET, working mode is Router, VLAN ID is 2)
2_INTERNET_B_VID_ (The WAN Connection is used for INTERNET, working mode is Bridge, VLAN ID is Null)

5.1.2 Default WAN Connection and Router Mode

There is a default WAN connection, 1_INTERNET_R_VID_ as below.
It works on Router Mode, DHCP, VLAN Disable.



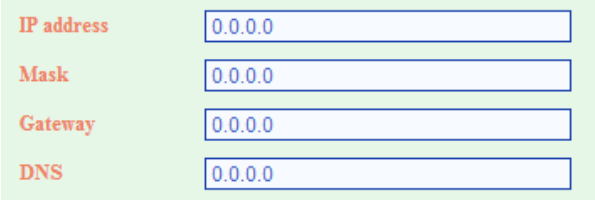
LABEL	DESCRIPTION
Network Name	Name of the WAN connection, you can add a new WAN connection or edit a exist WAN connection
Mode	Bridge or Route mode.
NAT	Enable or disable NAT function
Connect Type	You can use DHCP, Static and PPPoE mode.
MTU	maximum transmission unit (MTU in bytes)
VLAN ID	If you enable VLAN then enter the VLAN ID here.
Service	TR069, INTERNET ,R069_INTERNET
VLAN Enable	Enable or disable the VLAN
VLAN ID	VLAN ID value
Port Binding	Binding the port with the WAN service (Default WAN Connection in Router Mode have bound with all ports in default. If you setup new Bridge Mode WAN Connection, you can bind the port and de-bind the port from the Router MODE WAN Connection.)

Router Mode: When connection type is router mode, you can obtain WAN side IP in three ways. The mode of obtaining an IP address can be set to DHCP, static, or PPPoE.

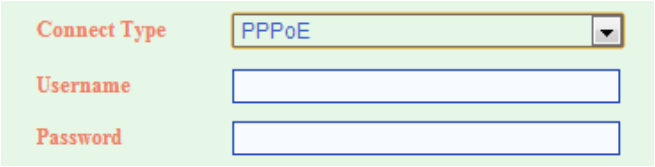
1) In DHCP mode, the IP address is dynamically obtained.
2) In static mode, the IP address is set statically. You need to enter the IP address, subnet mask, IP addresses of the active and standby DNS servers, and default gateway.
3) In PPPoE mode, you need to enter the user name and password.

Note: All the ports are bound with the default Router Mode WAN Connection. If you setup another Bridge Mode WAN connection, the port which you choose to bind with the bridge WAN connection will de-bind with the WAN connection. All the WAN connection in Router Mode shared the Bind Port (exception the port bind with Bridge Mode WAN Connection).

You need to select a Connect Type Setting in the WAN Connection configuration.
You can choose the STATIC IP, DHCP and PPPoE for different network application.
Below is the page as you choose the STATIC IP. You should configure the IP address, Mask, Gateway and DNS.

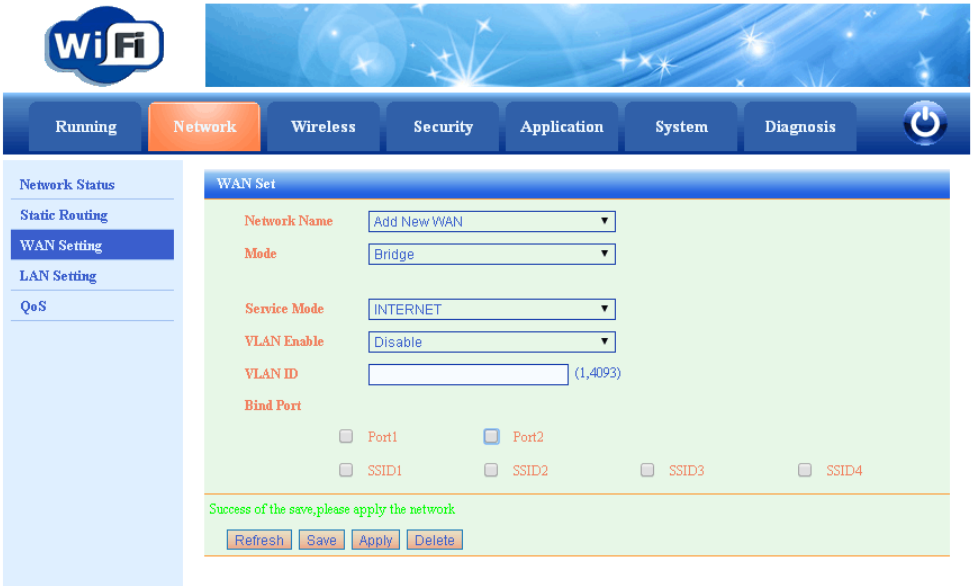


Below is the page as you choose the PPPoE IP. You should configure the PPPoE user name and password here.



If you choose DHCP, the router willl obtain an IP address automatically from the up-layer device.

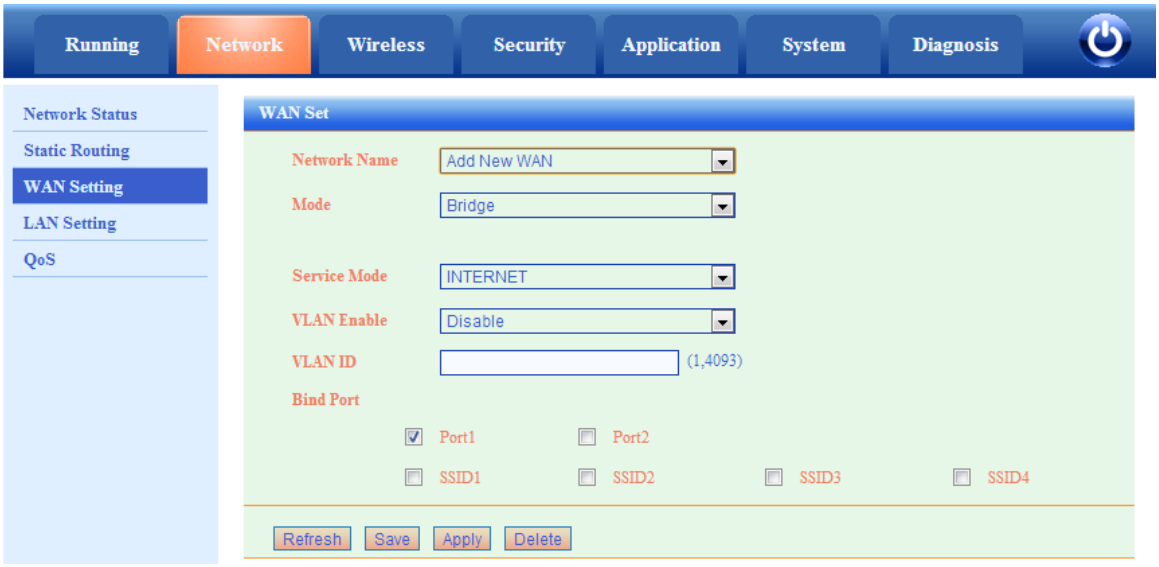
Bridge Mode: If you use bridge mode, L2 frame produced by WAN port and port binding to WAN is transparent transmission. Under this application condition, PC or other terminal after connecting will get IP address from up-layer device.



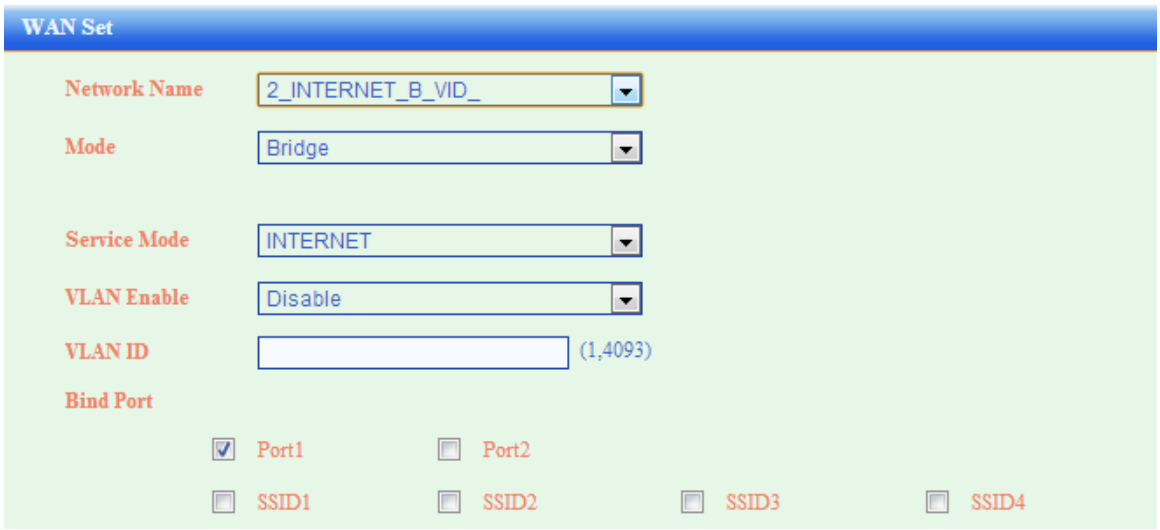
Click the Save button to save the configuration. And then click the Apply button to let the configuration come into operation.

5.1.3 Add An Bridge Mode WAN Connection

As the following figure configured, WAN 1 is the default WAN in Router Mode, and we set up WAN2 to Bridge Mode. Port1 is bound to the WAN2



Click SAVE-->Apply button , then we get the '2_INTERNET_B_VID_' Connection.



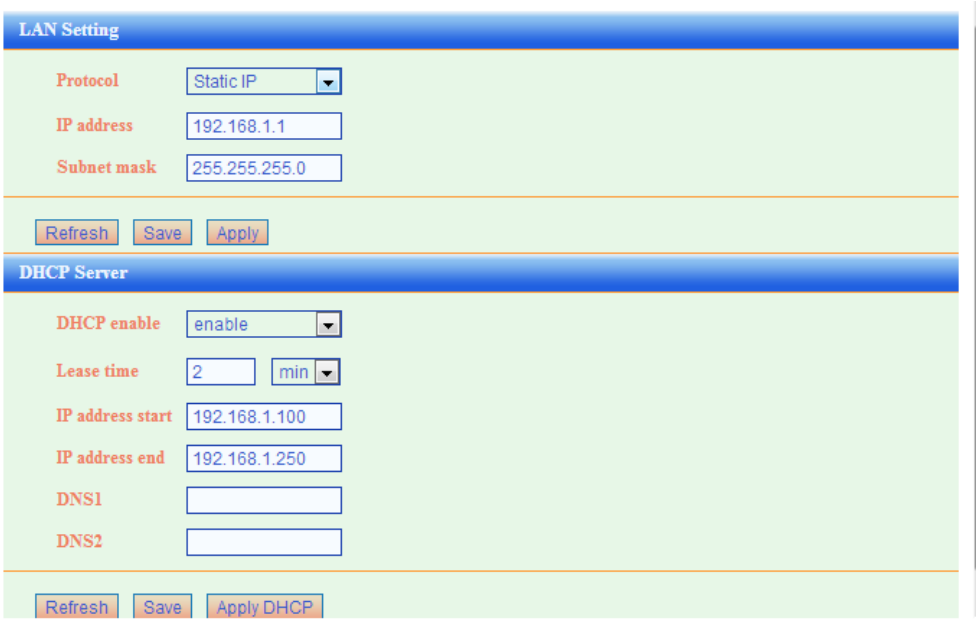
You can set up serval WAN Connection to carry out different service to subscriber.

5.2 LAN Setting

The LAN Setup screen allows configuration of LAN IP services such as Dynamic Host Configuration Protocol (DHCP).
The device is shipped preconfigured in a router mode and to use private IP addresses on the LAN side and to act as a DHCP server. The router's default LAN IP configuration is:

•LAN IP address. 192.168.1.1
•Subnet mask. 255.255.255.0

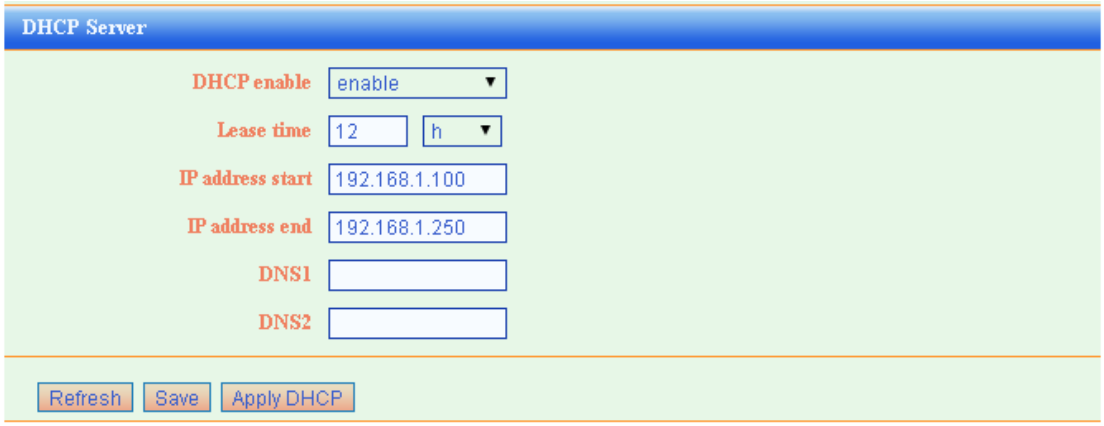
These addresses are part of the designated private address range for use in private networks and are suitable for most applications. If your network requires a different IP addressing scheme, you can change these settings in the LAN Setup screen.



Note:If you change the LAN IP address of the router while connected through the browser, you are disconnected. You will have to open a new connection to the new IP address and log in again.

By default, the device acts as a DHCP server. It assigns IP, DNS server, and default gateway addresses to all computers connected to the LAN. The assigned default IP address of the device 192.168.1.1 is also the gateway address. The device assigns IP addresses to the attached computers from a pool of addresses specified in the LAN Setup screen

★Tips: DHCP is the abbreviation of Dynamic Host Configuration Protocol which can assign IP address, Subnet Mask, Default Gateway of LAN Client on TCP/IP automatically.



1. DHCP Server: The DHCP function will go into effect if you select “Enable” as the figure beside.
2. IP Pool Starting Address: The starting IP address which DHCP Server automatically starts.
3. IP Pool Ending Address: The ending IP address which DHCP Server automatically ends.
The IP address that DHCP Server assigns to the requested client should be within the IP Pool. e.g., when you configure IP address pool from10 to 30, the IP Address which can be obtained by the clients would be between 10 and 30
4. Lease Time: You can set the time period during which the DHCP allows the assigned IP addresses to be used by the clients.
By setting a suitable lease time, you would enable the DHCP to take better advantage of the IP addresses which are not used again.
For example, you can set the lease time as one hour, and then the DHCP server would take back the IP addresses per an hour.
5.DNS: The DNS server is used to look up site addresses based on their names. If you know that your ISP requires specific servers, select this option. Enter the IP address of your ISP’s DNS server. If a secondary DNS server address is available, enter it in DNS2 also.

6 Wireless

The Wireless Settings screen lets you view or configure the wireless network setup.
There are Wireless Status, Basic Setting and MAC Filter su-menu.

6.1 Base Setting

In Basic Setting, you can enable or disable WIFI, and set wireless channel and work model etc.

Basic Set Area

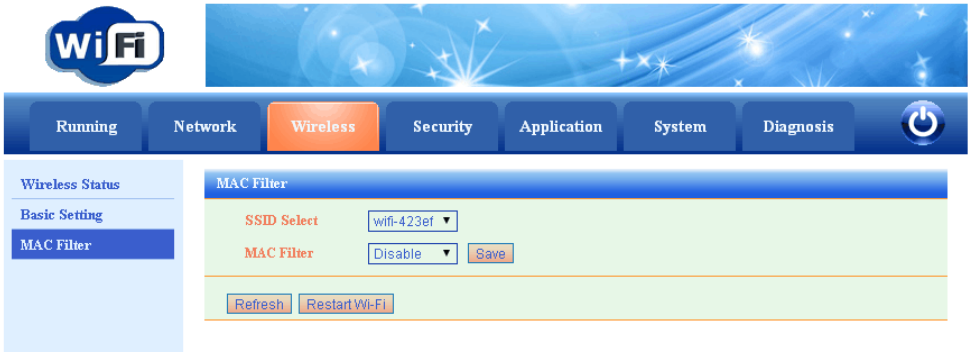
LABEL	DESCRIPTION
WIFI	Enable or disable WLAN
Channel Selection	Set the operating channel manually by selecting a channel from the Channel Selection list or use Auto Channel Select to have it automatically configured.
Model	The default 11NGHT40PLUS in Mode setting, and you can also manually change it into other modes.
Transmitting power	From 20% to 100%, 20% in step. 100% is maxim power.
Set SSID number	You can set up to 4 SSID. Default value is 1..

SSID1 Area

LABEL	DESCRIPTION
SSID	The SSID (Service Set IDentity) identifies the service set with which a wireless service is associated.
Hide SSID	Select this check box to hide the SSID in the outgoing beacon frame so a station cannot obtain the SSID through scanning using a site survey tool.
WMM Enable	Select this check box to enable the WMM protocol support
Encryption method	Select the authentication from None, WEP, WPA-PSK, WPA2 –PSK and Mixed WPA2/WPA –PSK. If you choose one encryption method, you need configure the authentication method and KEY.

6.2 MAC Filter

In this screen, you can choose the SSID Select and enable/disenable MAC Filter.



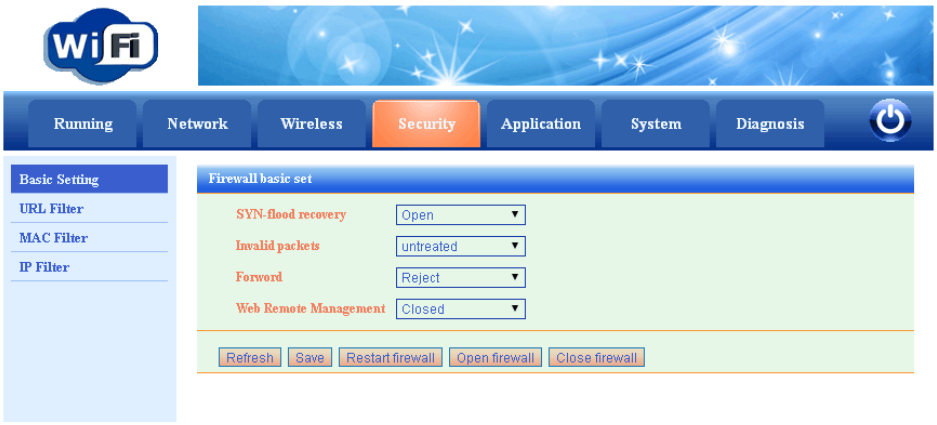
If you enable the MAC Filter, Can choose two rules, MAC White list and MAC Black list.

In MAC address table, you can add the corresponding MAC address.

7 Security

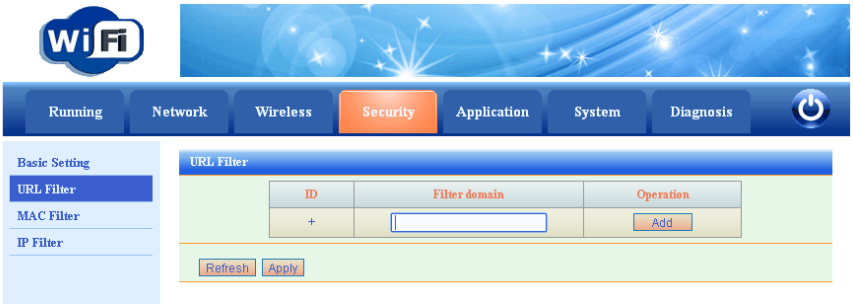
7.1 Basic setting

In Basic Setting screen, you can set relevant parameters, such as SYN-flood recovery, Invalid packets, Forward, Web Remote Management. Click save button to add them. As displayed below.



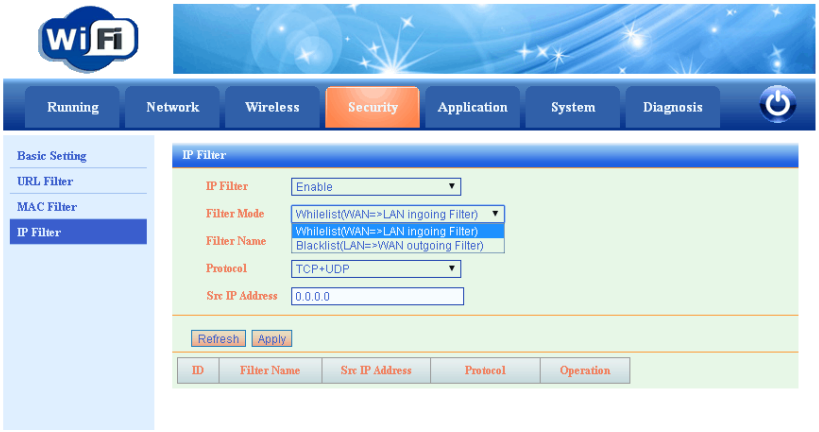
7.2 URL Filter

In URL Filter screen, Provide URL Filter table, Click add button to add corresponding rules.



7.3 IP Filter

In IP Filter screen, Provide enable/disable IP Filter, you can choose whitelist or blacklist, Click Apply button to add corresponding rules.

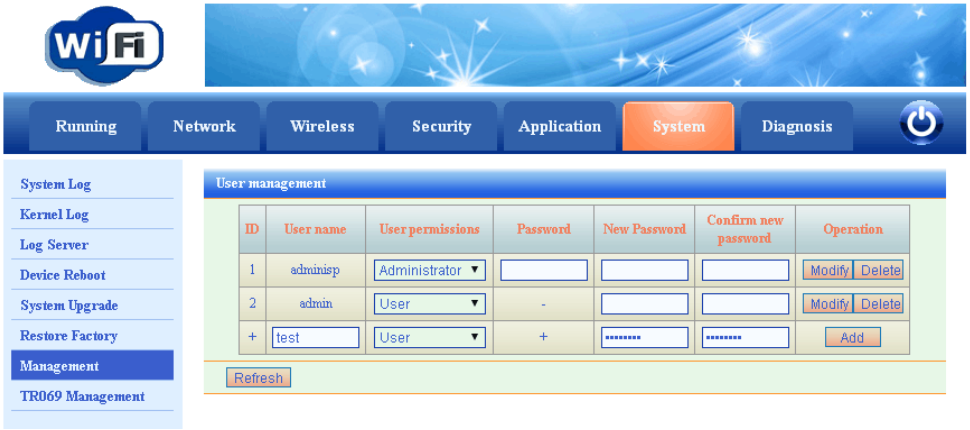


8 System

System Maintenance includes User Manager, System Update, Reboot, Reset Default, System Log;

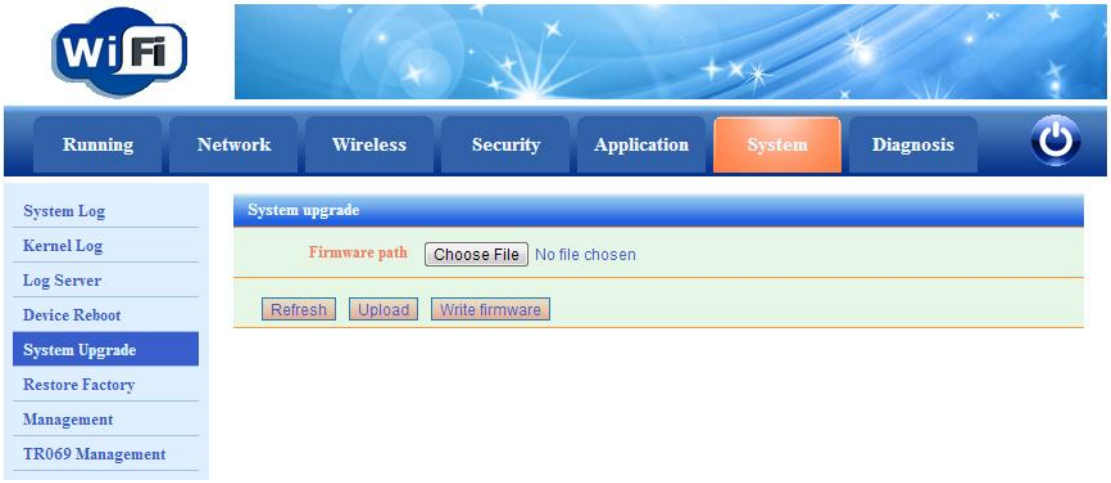
8.1 Management

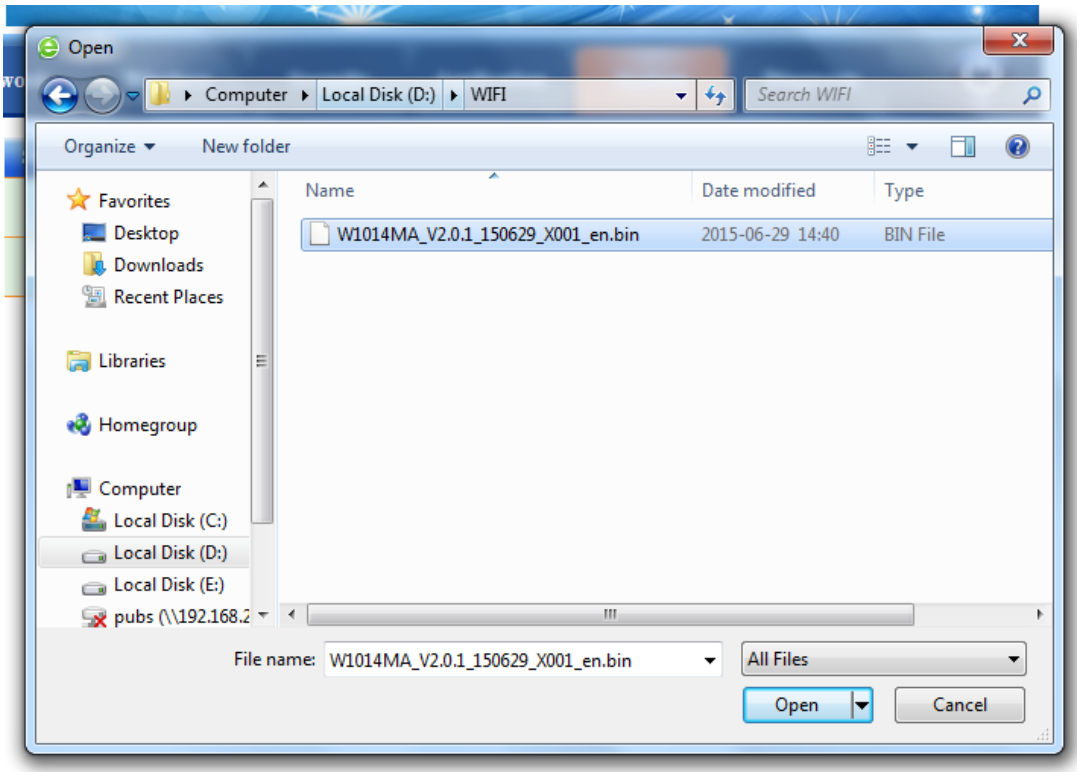
User Manager Setting has two default user name. The first user name is administrator, user level is Administrator. The second user name is admin, user level is Guest. Click corresponding Modify button, these two user names and passwords can be made relevant changes. Click the following add button, you can add relevant users, and set added user level, user name, corresponding passwords. As displayed below.



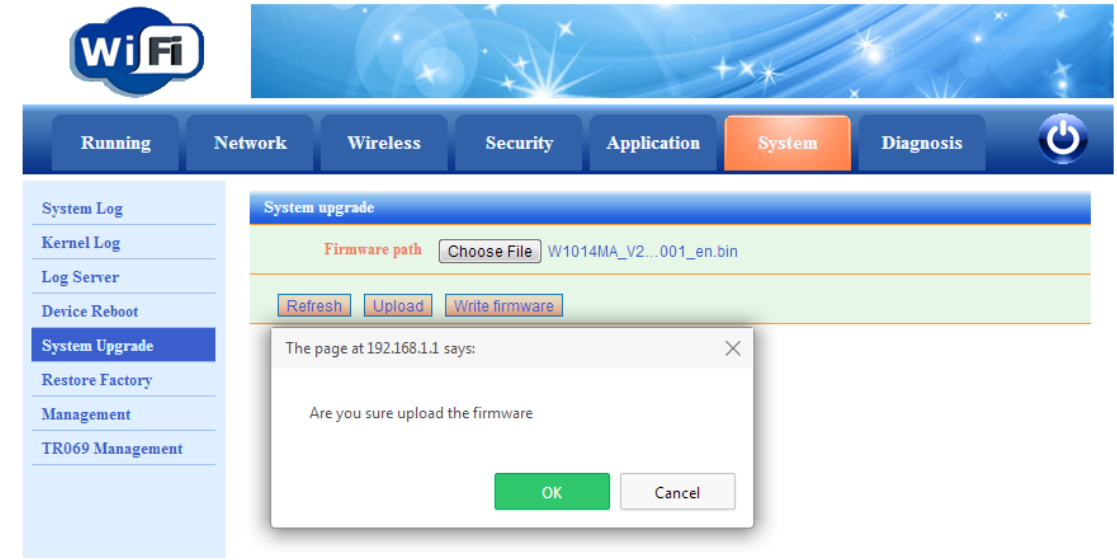
8.2 System Upgrade

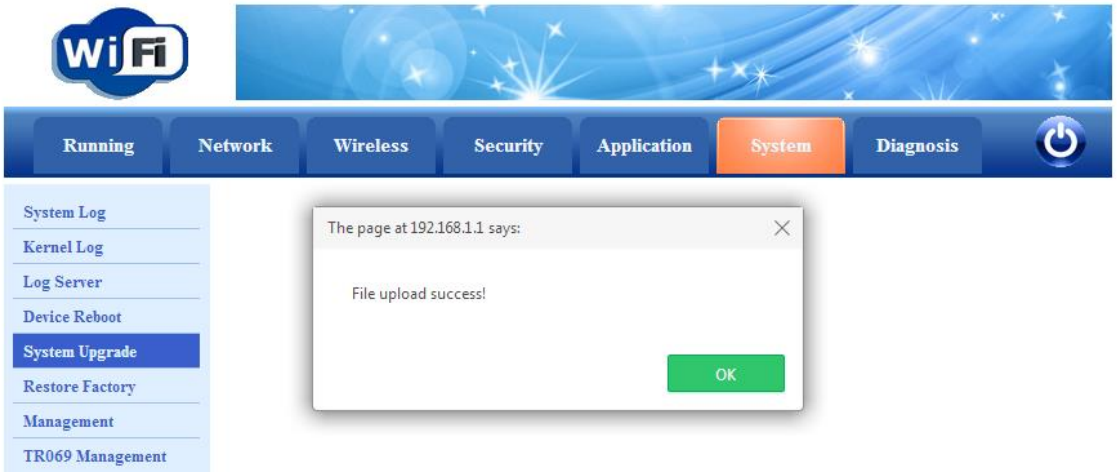
Device Software Upgrading can update device software version. Click ‘Choose File’ button, and choose corresponding upgrading file.



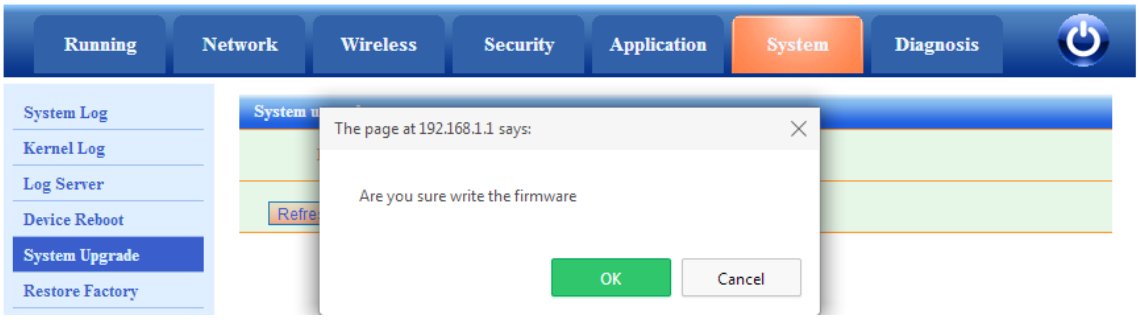


Click upload button, and then system will pop-up a windows to confirm uploading file.

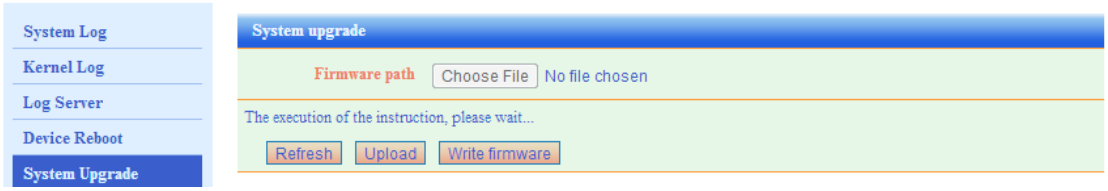




After that ,you can click to upgrade.

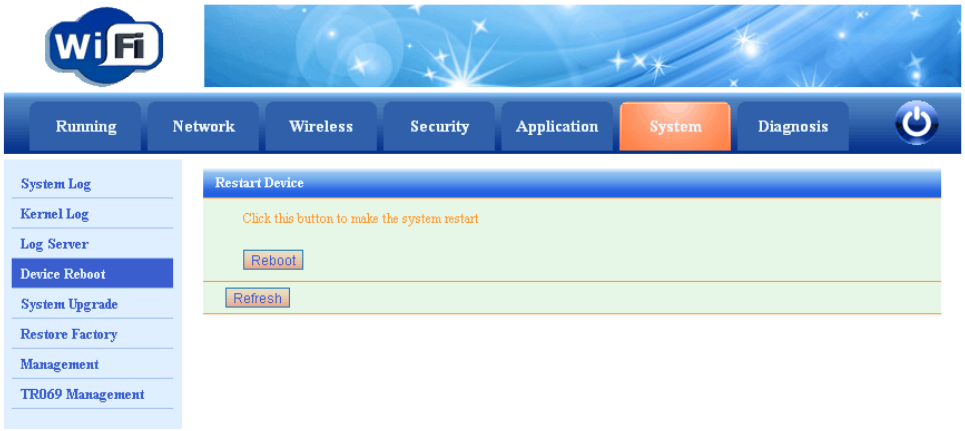


In upgrade.



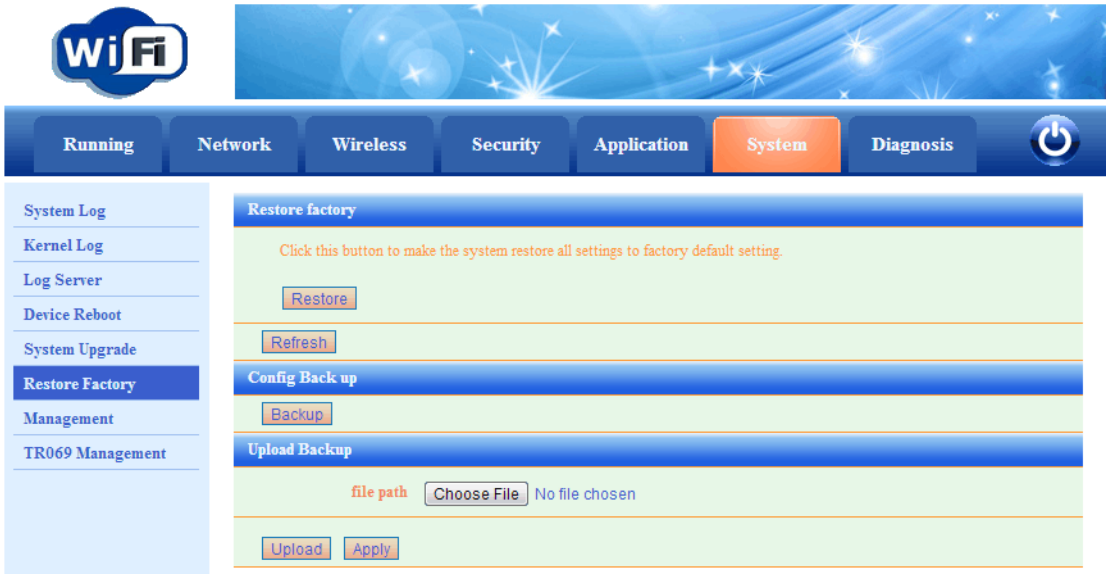
8.3 Device Reboot

Click Reboot button to reboot the current home gateway devices, as displayed below.

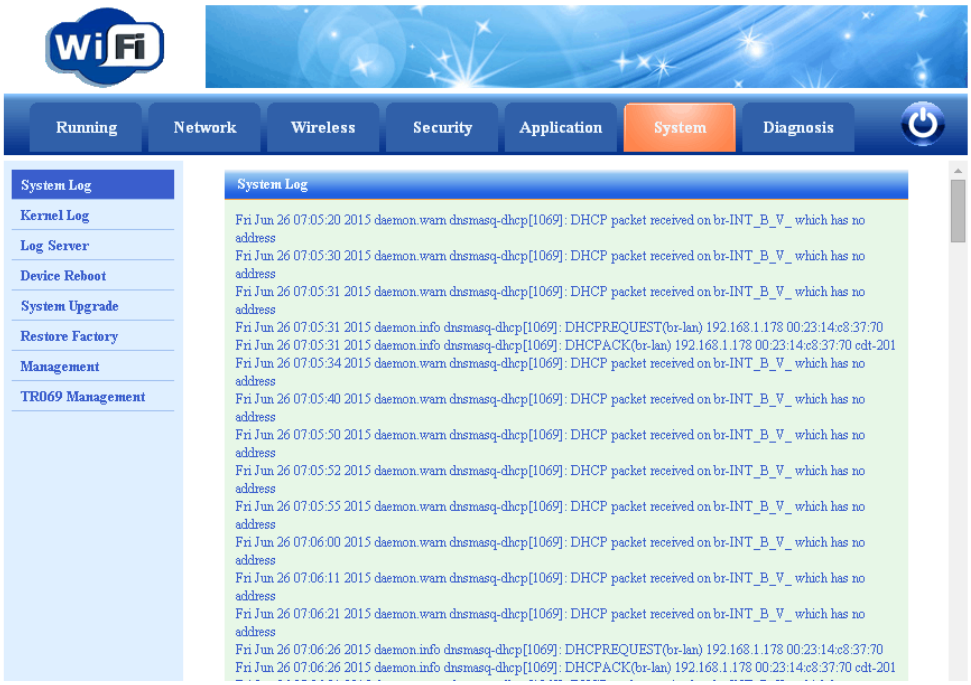


8.4 Restore Factory

Reset Default Setting, click submit button to restore the factory setting of the home gateway into default status. All parameters configurations made in system which includes WAN port parameter settings, wifi settings and other parameters will be cleared. As displayed below.



8.5 System Log

Log basic setting can be chosen to enable or disable log. Log pri includes Emergency, Alert, Critical, Error, Warning, Notice, Information, Debugging, a total of eight categories. It can be chosen into different log pri according to different operation situation. Click submit

button to finish relevant setting. Log events record relevant log events information that happened, it can clean relevant log information and export log information. As displayed below.